

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 5 and 10 and ADD new claims 11-13 in accordance with the following:

1. (Original) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

storage means storing a straightness-error corrective amount to prevent a straightness error of a wire electrode caused by consumption of the wire electrode due to the electric discharge; and

motion path determination means to obtain a first correction amount for a motion path of the wire electrode on a first plane parallel to the workpiece in an offset direction of the wire electrode and a second correction amount for a motion path of the wire electrode on a second plane parallel to the workpiece in the offset direction, based on the straightness-error corrective amount stored in said storage means, and to correct the motion path on the first plane by a first corrected offset amount obtained based on the first correction amount and a predetermined offset amount depending on a wire radius and an electric discharging gap, and to correct the motion path on the second plane by a second corrected offset amount obtained based on the second correction amount and the predetermined offset amount, to thereby determine motion paths of the upper and lower wire guides relative to the workpiece.

2. (Original) A wire electric discharge machine according to claim 1, wherein said motion path determination means obtains the first corrected offset amount on the first plane and the second corrected offset amount on the second plane different with each other, to thereby make different corrections to the motion paths on the first and second planes.

3. (Original) A wire electric discharge machine according to claim 1, wherein the straightness-error corrective amount is given by a value of an angle.

4. (Original) A wire electric discharge machine according to claim 1, wherein the straightness-error corrective amount is given by a tangent of an angle.

5. (Amended) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

storage means storing a straightness-error corrective amount to prevent a straightness error of a wire electrode caused by consumption of the wire electrode due to the electric discharge; and

motion path determination means to obtain a first correction amount for a motion path of the wire electrode on a first plane parallel to the workpiece in an offset direction of the wire electrode and a second correction amount for a motion path of the wire electrode on a second plane parallel to the workpiece in the offset direction, based on the straightness-error corrective amount stored in said storage means, and to correct the motion path on the first plane by a first corrected offset amount obtained based on the first correction amount and a predetermined offset amount depending on a wire radius and an electric discharging gap, and to correct the motion path on the second plane by a second corrected offset amount obtained based on the second correction amount and the predetermined offset amount, to thereby determine motion paths of the upper and lower wire guides relative to the workpiece~~A wire electric discharge machine according to claim 1, wherein said storage means comprises a database provided in a controller of the wire electric discharge machine for storing a plurality of straightness-error corrective amounts for different kinds of wire electrodes and machining conditions, and the straightness-error corrective amount is selected from the plurality of straightness-error corrective amounts stored in the database in accordance with a kind of the wire electrode and a machining condition designated for the wire electric machining in the controller.~~

6. (Original) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

storage means storing a straightness-error corrective amount to prevent a straightness error of a wire electrode caused by consumption of the wire electrode due to the electric discharge; and

motion path determination means to obtain a first correction amount for a motion path of the wire electrode on a first plane parallel to the workpiece in an offset direction of the wire

electrode and a second correction amount for a motion path of the wire electrode on a second plane parallel to the workpiece in the offset direction, based on the straightness-error corrective amount stored in said storage means, and to correct the motion path on the first plane by a first corrected offset amount obtained based on the first correction amount and a predetermined offset amount depending on a wire radius and an electric discharging gap, and to correct the motion path on the second plane by a second corrected offset amount obtained based on the second correction amount, the predetermined offset amount and a predetermined taper offset amount for taper machining, to thereby determine motion paths of the upper and lower wire guides relative to the workpiece in the taper machining.

7. (Original) A wire electric discharge machine according to claim 6, wherein said motion path determination means obtains the first corrected offset amount on the first plane and the second corrected offset amount on the second plane different with each other, to thereby make different corrections to the motion paths on the first and second planes.

8. (Original) A wire electric discharge machine according to claim 6, wherein the straightness-error corrective amount is given by a value of an angle.

9. (Original) A wire electric discharge machine according to claim 6, wherein the straightness-error corrective amount is given by a tangent of an angle.

10. (Amended) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

storage means storing a straightness-error corrective amount to prevent a straightness error of a wire electrode caused by consumption of the wire electrode due to the electric discharge; and

motion path determination means to obtain a first correction amount for a motion path of the wire electrode on a first plane parallel to the workpiece in an offset direction of the wire electrode and a second correction amount for a motion path of the wire electrode on a second plane parallel to the workpiece in the offset direction, based on the straightness-error corrective amount stored in said storage means, and to correct the motion path on the first plane by a first corrected offset amount obtained based on the first correction amount and a predetermined offset amount depending on a wire radius and an electric discharging gap, and to correct the

motion path on the second plane by a second corrected offset amount obtained based on the second correction amount, the predetermined offset amount and a predetermined taper offset amount for taper machining, to thereby determine motion paths of the upper and lower wire guides relative to the workpiece in the taper machining~~A wire electric discharge machine according to claim 6~~, wherein said storage means comprises a database provided in a controller of the wire electric discharge machine for storing a plurality of straightness-error corrective amounts for different kinds of wire electrodes and machining conditions, and the straightness-error corrective amount is selected from the plurality of straightness-error corrective amounts stored in the database in accordance with a kind of the wire electrode and a machining condition designated for the wire electric machining in the controller.

11. (New) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

a storage to store a straightness-error corrective amount so as to prevent an error caused by a consumption of the wire electrode and a predetermined offset amount based on a radius of the wire electrode and an electric discharging gap; and

a motion path determinator to obtain a first correction amount of a motion path of the wire electrode on a first plane and a second correction amount of a motion path of the wire electrode on a second plane, based on the stored straightness-error corrective amount, and to thereby correct the motion path on the first and second planes by first and second corrected offset amounts, respectively, wherein

the first corrected offset amount is based on the first correction amount and the predetermined offset amount, and

the second corrected offset amount is based on the second correction amount and the predetermined offset amount.

12. (New) A wire electric discharge machine for machining a workpiece by electric discharge between the workpiece and a wire electrode arranged between upper and lower wire guides, comprising:

a storage to store a straightness-error corrective amount so as to prevent an error caused by consumption of the wire electrode, a predetermined offset amount depending on a radius of the wire and an electric discharging gap, and a predetermined taper offset amount for taper machining; and

a motion path determinator to obtain a first correction amount of a motion path of the wire electrode on a first plane and a second correction amount of a motion path of the wire electrode on a second plane, based on the stored straightness-error corrective amount, and to thereby correct the motion path on the first and second planes by first and second corrected offset amounts, respectively, wherein

the first corrected offset amount is based on the first correction amount and the predetermined offset amount, and

the second corrected offset amount is based on the second correction amount, the predetermined offset amount, and the predetermined taper offset amount.

13. (New) A method of operating on a workpiece to be machined with an electric wire discharge machine, comprising:

reading a correction angle and machining conditions of the workpiece;

calculating respective correction amounts and corrected offset amounts on a program plane and an upper surface of the workpiece in offset directions;

driving lower and upper electric wire guides based on the respective correction amounts and corrected offset amounts; and

ending the operating if machining is completed or recalculating the corrected offset amounts and resuming the driving operation if machining is not completed.